**Electronic Supplementary file**

**for the Research Paper**

**“Optimization of process parameters in elucidating the adsorption mechanism of Gallic acid on activated carbon prepared from date stones”**

**List of Supplementary Figure captions**

**Fig. S1.** Energy dispersive analysis spectrum of DSAC.

**Fig. S2.** Fourier Transform Infrared Spectroscopy (FTIR) of DSAC.

**Fig. S3.** X-ray diffraction of DSAC.

**Fig. S4.** The effect of pH on the adsorption of gallic acid onto DSAC. Mass of sorbent = 0.1 g, Vsolution= 150 mL, C0(GA) = 0.1 g/L, time = 360 min, T = 298K, 180 rpm.

**Fig. S5.**Curves pHfinal = f (pHinitial) for determining the point of zero charge (pHpzc) of DSAC.

**Fig. S6.** Effect of ionic strength (NaCl) on the adsorption of GA. Vsolution= 150 mL, C0(GA) = 0.1 g/L, time = 360 min, pH = 4.5, T = 298 K, 180 rpm.

**Fig. S7.**Van’t Hoff plot for GA adsorption onto DSAC. m(AC) = 0.1g; VSolution= 150 mL; C0(GA)= 0.1 g/L; t = 360 min; 180 rpm; pH = 4.5.

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**Fig. S1**

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**Fig. S2**

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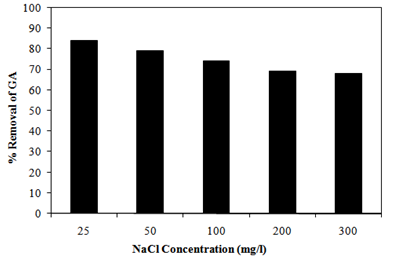
**Fig.S3**

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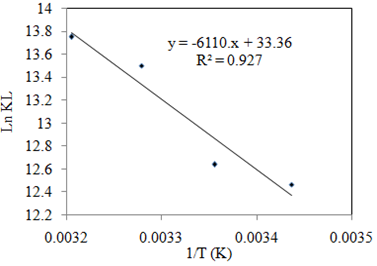
**Fig. S4**

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**Fig. S5**



**Fig. S6**



**Fig. S7**